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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MILIA, MARK R

ART UNIT PAPER NUMBER

2625

DATE MAILED: 05/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/923,960

Applicant(s)

NAKAMURA, SATORU

Examiner

Mark R. Milia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/21/06 and 3/20/06 has been entered. Currently, claims 1-36 are pending.

Response to Arguments

2. Applicant's arguments with respect to claims 1-36 have been considered but are moot in view of the current amendment to the claims and therefore new ground(s) of rejection will be made.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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4. Claims 1, 10, 19, and 28-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watabe in view of Sugiyama. Reference will be made to the computer translation of Watabe that was previously furnished.

Regarding claims 1 and 19, Watabe discloses a printer controller and tangible computer-readable storage medium which stores a program configured to generate pattern data for use in a tone adjusting process, said printer controller comprising: a selecting unit configured to select a dot size of a reference tone pattern (see paragraph [0024] and [0028]), and a generating unit configured to generate and output to a printer device said reference tone pattern having the dot size selected by said selecting unit and tone adjusting patterns having tones of a predetermined range including a reference tone of said reference tone pattern such that the printer device prints the reference tone pattern and the tone adjusting patterns on a recording medium for evaluation in the tone adjusting process (see Drawings 8 and 13, and paragraphs [0024] and [0027]-[0035]).

Watabe does not disclose expressly varying a number of pixels forming each dot of the reference tone pattern.

Sugiyama discloses varying a number of pixels forming each dot of the reference tone pattern (see column 3 lines 25-32, column 4 lines 55-62, column 5 lines 8-17, column 6 lines 36-54, and column 7 lines 16-40).

Regarding claim 10, Watabe discloses an image forming apparatus comprising a printer controller configured to generate pattern data (see Drawing 1 and paragraphs [0010]-[0014]), a printer engine configured to print the pattern data generated by said

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printer controller (see Drawing 1 and paragraphs [0010]-[0014], [0025], and [0027]), said printer controller comprising: a selecting unit configured to select a dot size of a reference tone pattern (see paragraphs [0024] and [0028]), and a generating unit configured to generate and output a reference tone pattern having the dot size selected by said selecting unit and tone adjusting patterns having tones of a predetermined range including a reference tone of said reference tone pattern wherein the printer engine is configured to print the reference tone pattern and the tone adjusting patterns on a recording medium for evaluation in the tone adjusting process (see Drawings 8 and 13, and paragraphs [0024] and [0027]-[0035]).

Watabe does not disclose expressly varying a number of pixels forming each dot of the reference tone pattern.

Sugiyama discloses varying a number of pixels forming each dot of the reference tone pattern (see column 3 lines 25-32, column 4 lines 55-62, column 5 lines 8-17, column 6 lines 36-54, and column 7 lines 16-40).

Regarding claim 31, Watabe discloses a printer controller configured to generate pattern data, printed by a printer engine, for use in a tone adjusting process, said printer controller comprising: means for selecting a dot size of a reference tone pattern (see paragraphs [0024] and [0028]) and means for generating and outputting, to the printer engine, said reference tone pattern having the dot size selected by said selecting means and tone adjusting patterns having tones of a predetermined range including a reference tone of said reference tone pattern wherein the printer engine is configured to print the reference tone pattern and the tone adjusting patterns on a recording medium

for evaluation in the tone adjusting process (see Drawings 8 and 13, and paragraphs [0024] and [0027]-[0035]).

Watabe does not disclose expressly varying a number of pixels forming each dot of the reference tone pattern.

Sugiyama discloses varying a number of pixels forming each dot of the reference tone pattern (see column 3 lines 25-32, column 4 lines 55-62, column 5 lines 8-17, column 6 lines 36-54, and column 7 lines 16-40).

Regarding claims 33 and 35, Watabe discloses a printer controller configured to generate pattern data, printed by a printer engine, for use in a tone adjusting process, said printer controller comprising: means for selecting a dot size of a reference tone pattern (see paragraphs [0024] and [0028]) and means for generating and outputting, to the printer engine, said reference tone pattern having the dot size selected by said selecting means and tone adjusting patterns having tones of a predetermined range including a reference tone of said reference tone pattern, printing with the printer engine the reference tone pattern and the tone adjusting patterns on a recording medium (see Drawings 8 and 13, and paragraphs [0024] and [0027]-[0035]), and adjusting the tone pattern printed by the printer engine based on a comparison of the reference tone pattern and the tone adjusting patterns on the recording medium (see paragraphs [0030]-[0032]).

Watabe does not disclose expressly varying a number of pixels forming each dot of the reference tone pattern.

Sugiyama discloses varying a number of pixels forming each dot of the reference tone pattern (see column 3 lines 25-32, column 4 lines 55-62, column 5 lines 8-17, column 6 lines 36-54, and column 7 lines 16-40).

Watabe & Sugiyama are combinable because they are from the same field of endeavor, detection and correction of image tone density.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the varying number of pixels to form each dot of a reference tone pattern, as described by Sugiyama, with the system of Watabe.

The suggestion/motivation for doing so would have been to provide high print quality with greater accuracy (see column 5 lines 15-18 and 52-55 of Sugiyama).

Therefore, it would have been obvious to combine Sugiyama with Watabe to obtain the invention as specified in claims 1, 10, 19, 31, 33, and 35.

Regarding claims 28-30, 32, 34, and 36, Sugiyama further discloses wherein the generating unit is configured to generate means for determining one of the tone adjusting patterns matching the reference tone pattern (see column 5 lines 43-55).

5. Claims 2, 6, 7, 11, 15, 16, 20, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watabe and Sugiyama as applied to claims 1, 10, and 19 above, and further in view of Sasanuma (US 5583644).

Regarding claims 2, 11, and 20, Watabe and Sugiyama do not disclose expressly wherein said selecting unit is configured to select the dot size in response to an external input.

Sasanuma discloses wherein said selecting unit is configured to select the dot size in response to an external input (see column 6 line 64-column 7 line 27 and column 8 lines 33-35).

Regarding claims 6, 15, and 24, Watabe and Sugiyama do not disclose expressly wherein said selecting unit is configured to select the dot size depending on a resolution which is input to the printer controller.

Sasanuma discloses wherein said selecting unit is configured to select the dot size depending on a resolution which is input to the printer controller (see column 4 lines 10-33 and column 4 line 60-column 5 line 49).

Regarding claims 7, 16, and 25, Watabe and Sugiyama do not disclose expressly wherein said selecting unit is configured to select the dot size depending on each of basic colors used by corresponding image forming sections of a printer engine.

Sasanuma discloses wherein said selecting unit is configured to select the dot size depending on each of basic colors used by corresponding image forming sections of a printer engine (see column 7 line 35-column 8 line 7).

Watabe, Sugiyama, & Sasanuma are combinable because they are from the same field of endeavor, detection and correction of image tone density.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the various methods of determining dot size, as described by

Sasanuma, and which is well known in the art, with the system of Watabe and Sugiyama.

The suggestion/motivation for doing so would have been to provide high print quality with greater accuracy.

Therefore, it would have been obvious to combine Sasanuma with Watabe and Sugiyama to obtain the invention as specified in claims 2, 6, 7, 11, 15, 16, 20, 24, and 25.

6. Claims 3, 12, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watabe and Sugiyama as applied to claims 1, 10, and 19 above, and further in view of Aruga et al.

Watabe and Sugiyama do not disclose expressly selecting the dot size depending on a counted value of a maintenance counter, said counted value indicating a total operating time of a printer engine.

Aruga discloses a maintenance counter, said counted value being received from the printer engine and indicating a total operating time of the printer engine (see the abstract, Figs. 1A and 6, column 2 lines 1-8, column 5 lines 15-41, column 6 lines 33-42, column 8 line 66-column 9 line 7, column 10 lines 17-29 and 46-47, and column 11 lines 3-18).

Watabe, Sugiyama, & Aruga are combinable because they are from the same field of endeavor, print systems to ensure high quality printing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the counter aspect of Aruga with the system of Watabe and Sugiyama.

The suggestion/motivation for doing so would have been to provide a way to easily check the wear on consumables to ensure high printer quality (see column 11 lines 13-18 of Aruga).

Therefore, it would have been obvious to combine Aruga with Watabe and Sugiyama to obtain the invention as specified in claims 3, 12, and 21.

7. Claims 4, 13, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watabe and Sugiyama as applied to claims 1, 10, and 19 above, and further in view of Overall et al.

Watabe and Sugiyama do not disclose expressly selecting the dot size depending on an output value of a toner sensor, said output value indicating a remaining amount of toner within a printer engine.

Overall discloses an output value of a toner sensor, said output value being received from the printer engine and indicating a remaining amount of toner within the printer engine (see Figs. 1, 2, and 7, column 2 lines 61-67, column 5 lines 42-54, column 8 lines 14-27 and 38-47, column 11 lines 1-21, column 12 lines 41-60, and column 13 lines 38-62).

Watabe, Sugiyama, & Overall are combinable because they are from the same field of endeavor, reliable reproduction of print data onto a print medium.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the toner level usage aspect of Overall with the system of Watabe and Sugiyama.

The suggestion/motivation for doing so would have been to provide a more accurate tracking system to allow higher predictability of reproduced resolution and increases gradation matching between the original document and the reproduced document.

Therefore, it would have been obvious to combine Overall with Watabe and Sugiyama to obtain the invention as specified in claims 4, 13, and 22.

8. Claims 5, 14, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watabe and Sugiyama as applied to claims 1, 10, and 19 above, and further in view of Wiklof et al.

Watabe and Sugiyama do not disclose expressly selecting the dot size depending on an engine ID stored in a register, said engine ID indicating a type of a printer engine.

Wiklof discloses an engine ID stored in a register, said engine ID being received from the printer engine and indicating a type of a printer engine (see column 5 line 41-column 6 line 28).

Watabe, Sugiyama, & Wiklof are combinable because they are from the same field of endeavor, printer configuration to ensure printer performance.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the engine type identifier of Wiklof with the system of Watabe and Sugiyama.

The suggestion/motivation for doing so would have been to provide increased performance based on hardware components capabilities.

Therefore, it would have been obvious to combine Wiklof with Watabe and Sugiyama to obtain the invention as specified in claims 5, 14, and 23.

9. Claims 8, 17, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watabe and Sugiyama as applied to claims 1, 10, and 19 above, and further in view of Gast et al.

Watabe discloses wherein said generating unit is configured to generate said reference tone pattern and the tone adjusting patterns which allows the operator to compare and match the tone patterns in which the patterns are arranged adjacent to each other (see Drawings 8 and 13 and paragraphs [0027]-[0035]).

Watabe and Sugiyama do not disclose expressly wherein said generating unit is configured to generate said reference tone pattern and the tone adjusting patterns such that said reference tone pattern includes a central portion and reference sector portions arranged intermittently around said central portion, the tone adjusting patterns include adjusting sector portions arranged intermittently around said central portion and each respectively located between two of the reference sector portions, whereby each of the

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adjusting sector portions has three sides respectively adjacent to said central portion and two of the reference sector portions.

Gast discloses a printer calibration system in which a variety of shapes and sizes can be used to allow an operator to visually match the test patterns (see Figs. 4 and 9, column 5 lines 23-25 and 55-60, column 6 lines 4-63, and column 7 line 59-column 8 line 24)

Watabe, Sugiyama, & Gast are combinable because they are from the same problem solving area, printing adjustments using test pattern techniques.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the calibration technique using a circular pattern as disclosed by Gast with the system of Watabe and Sugiyama.

The suggestion/motivation for doing so would have been to allow easy visual pattern matching regardless of the calibration axis (see column 8 lines 15-25 of Gast).

Therefore, it would have been obvious to combine Gast with Watabe and Sugiyama to obtain the invention as specified in claims 8, 17, and 26.

10. Claims 9, 18, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watabe and Sugiyama as applied to claims 1, 10, and 19 above, and further in view of U.S. Patent No. 5258783 to Sasanuma et al.

Watabe and Sugiyama do not disclose expressly a correcting unit configured to determine a gamma-correction based on an external input, the external input being

based on a printed output of the reference tone pattern and the tone adjusting patterns generated by said generating unit.

Sasanuma discloses a correcting unit configured to determine a gamma-correction based on an external input, the external input being based on a printed output of the reference tone pattern and the tone adjusting patterns generated by said generating unit (see Figs. 2 and 4, column 1 lines 34-45, column 3 lines 29-51, and column 4 lines 5-32).

Watabe, Sugiyama, & Sasanuma are combinable because they are from the same field of endeavor, print system to improve image quality.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the gamma-correction aspect of Sasanuma with the system of Watabe and Sugiyama.

The suggestion/motivation for doing so would have been to prevent deterioration of image quality in image reproduction.

Therefore, it would have been obvious to combine Sasanuma (783) with Watabe and Sugiyama to obtain the invention as specified in claims 9, 18, and 27.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. To further show the state of the art refer to the attached Notice of References Cited.

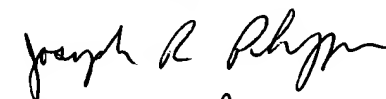
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark R. Milia whose telephone number is (571) 272-7408. The examiner can normally be reached M-F 8:00am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Twyler M. Lamb can be reached at (571) 272-7406. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MRM

Mark R. Milia
Examiner
Art Unit 2625


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